

CLAIMS

What is claimed is:

1. In combination,
a door pivotally mounted in a door opening above a horizontal floor,
the door mounted in the door opening for pivoting about a vertical axis between open and closed positions in the door opening, the door having an outer face and an opposed inner face,
the door further having a lower edge proximate the floor, an elongate aperture in the floor adjacent to the door,
a security locking device comprising:
 - (a) elongate bolt secured to said door so as to be slidably mounted parallel to one of said faces, said bolt being extendable into a first engaged position wherein an end portion of the bolt extends outwardly of the lower edge of said door and into the elongate aperture in the floor; the bolt being substantially vertical relative the floor,
 - (b) locking means preventing withdrawal of said bolt from said aperture while said door is in an open position; and
 - (c) releasing means allowing said bolt to be inserted into, and withdrawn from, said aperture while said door is in a closed position,wherein said bolt is movable in a lengthwise dimension of said elongate aperture by pivoting movement of said door, thereby permitting said door to be opened by a predetermined amount with said bolt in said first engaged position;
the bolt extends outwardly of said inner face of the door and is secured to the inner face of the door by at least one bracket permitting longitudinal sliding of the bolt therethrough;
said locking means comprises:
 - i. a plate covering said aperture and having an elongate opening, a width of the elongate opening being less than a width of the aperture;

- ii. said end portion of said bolt having a diameter greater than the width of the elongate opening in the plate, wherein said end portion is received in said elongate aperture when said bolt is in said first engaged position; and
- iii. an intermediate portion of the bolt adjacent said end portion having a diameter less than the width of the elongate opening in the plate, at least a portion of said intermediate portion of the bolt being in registry with the elongate opening of the plate when the bolt is in said first engaged position,

said releasing means comprises an enlarged opening in the plate having a width greater than the width of the elongate opening and greater than the diameter of the end portion of the bolt, said enlarged opening communicating with the elongate opening of the plate and being positioned so that when said door is closed, the end portion of the bolt may be withdrawn from and inserted into said aperture through said enlarged opening in said plate,

and wherein:

a first portion of the aperture, into which the bolt is extendable through the elongate opening in the plate, has a first depth;

a second portion of the aperture into which the bolt is extendable through the enlarged opening in the plate, has a second depth;

the second depth is greater than the first depth;

in the first engaged position, the bolt extends into said aperture to a first engaged depth less than or equal to the first depth of the aperture; and

in a second engaged position, the bolt extends into said second position of the aperture to a second engaged depth greater than the first depth of the aperture,

such that, when the bolt is in said first engaged position, the door is openable by a predetermined amount, and when said bolt is in said second engaged position, the door is closed.

2. The combination according to claim 1, wherein said enlarged opening communicates with an end of the elongate opening closest to the door opening.

3. The combination of claim 1, wherein said door has a first vertical edge connected by a hinge to an edge of the door opening, and a second vertical edge remote from said first vertical edge.
4. The combination of claim 3, wherein said aperture in said floor is proximate said second vertical edge of said door.
5. The combination of claim 3, wherein said bolt is raised from said first engaged position and lowered into said first engaged position by a first locking mechanism.
6. The combination of claim 5, wherein said first locking mechanism simultaneously controls a horizontal deadbolt extendable into an aperture in a vertical edge of said door opening.
7. The combination of claim 5, wherein said first locking mechanism is connected to an upper end of said bolt by a gear mechanism.
8. The combination of claim 7, in which said bolt contains a knob protruding by means of which height and consequent degree of penetration of said bolt through any aperture may be adjusted.
9. The combination of claim 7, wherein said gear mechanism comprises a latch mounted on one gear, which first gear meshes with any number of other gears, upon which of the other gears is mounted a protruding bolthead or other part travelling through aperture of a latch, which latch is in turn connected to said bolt.
10. The combination of claim 9, in which said bolt contains a knob protruding through said latch, and which arrangement provides means for adjusting height of said bolt and its consequent degree of penetration into any aperture when said gears are caused to turn.
11. The combination of claim 1, wherein the bolt is raised from said second engaged position to said first engaged position, and lowered from said first engaged position to said second engaged position, by a locking mechanism.